

### Amendments to the Claims

1. (Canceled)
2. (Previously presented) A receptor cassette encoding a chimeric receptor polypeptide comprising:
  - 1) a DNA binding (C) domain;
  - 2) a hinge (D) domain of an ecdysone receptor (EcR) of an insect selected from the group consisting of *Manduca sexta*, *Agrotis ipsilon*, *Spodoptera frugiperda*, *Chironomus tentans*, and *Locusta migratoria*;
  - 3) a ligand binding (E) domain that is heterologous with respect to said hinge (D) domain; and
  - 4) an activation domain; wherein
    - a) said DNA binding (C) domain is a *Manduca sexta* EcR DNA binding (C) domain, said hinge (D) domain is a *Manduca sexta* EcR hinge (D) domain, and said ligand binding (E) domain is a *Drosophila melanogaster* EcR ligand binding (E) domain;
    - b) said DNA binding (C) domain is a *Manduca sexta* EcR DNA binding (C) domain, said hinge (D) domain is a *Manduca sexta* EcR hinge (D) domain, and said ligand binding (E) domain is an *Agrotis ipsilon* EcR ligand binding (E) domain;
    - c) said DNA binding (C) domain is a GAL4 DNA binding domain, said hinge (D) domain is a *Manduca sexta* EcR hinge (D) domain, and said ligand binding (E) domain is an *Agrotis ipsilon* EcR ligand binding (E) domain;
    - d) said DNA binding (C) domain is a *Manduca sexta* EcR DNA binding (C) domain, said hinge (D) domain is a *Manduca sexta* EcR hinge (D) domain, and said ligand binding (E) domain is an *Ostrinia nubilalis* EcR ligand binding (E) domain;
    - e) said DNA binding (C) domain is a GAL4 DNA binding domain, said hinge (D) domain is a *Manduca sexta* EcR hinge (D) domain, and said ligand binding (E) domain is an *Ostrinia nubilalis* EcR ligand binding (E) domain;

- f) said DNA binding (C) domain is a *Manduca sexta* EcR DNA binding (C) domain, said hinge (D) domain is a *Manduca sexta* EcR hinge (D) domain, and said ligand binding (E) domain is a *Spodoptera frugiperda* EcR ligand binding (E) domain;
  - g) said DNA binding (C) domain is a GAL4 DNA binding domain, said hinge (D) domain is a *Manduca sexta* EcR hinge (D) domain, and said ligand binding (E) domain is a *Spodoptera frugiperda* EcR ligand binding (E) domain;
  - h) said DNA binding (C) domain is a *Locusta migratoria* EcR DNA binding (C) domain, said hinge (D) domain is a *Locusta migratoria* EcR hinge (D) domain, and said ligand binding (E) domain is a *Manduca sexta* EcR ligand binding (E) domain;
  - i) said DNA binding (C) domain is a *Manduca sexta* EcR DNA binding (C) domain, said hinge (D) domain is a *Manduca sexta* EcR hinge (D) domain, and said ligand binding (E) domain is a *Locusta migratoria* EcR ligand binding (E) domain;
  - j) said DNA binding (C) domain is a *Chironomus tentans* EcR DNA binding (C) domain, said hinge (D) domain is a *Chironomus tentans* EcR hinge (D) domain, and said ligand binding (E) domain is a *Manduca sexta* EcR ligand binding (E) domain; or
  - k) said DNA binding (C) domain is a *Manduca sexta* EcR DNA binding (C) domain, said hinge (D) domain is a *Chironomus tentans* EcR hinge (D) domain, and said ligand binding (E) domain is a *Chironomus tentans* EcR ligand binding (E) domain.
3. (Original) A receptor cassette according to claim 2, wherein said activation domain is a VP16 activation domain.
4. (Previously presented) A receptor cassette encoding a chimeric receptor polypeptide comprising:
- 1) a DNA binding (C) domain;
  - 2) a hinge (D) domain of an ecdysone receptor (EcR) of an insect, wherein said hinge (D) domain is a *Manduca sexta* EcR hinge (D) domain;

- 3) a ligand binding (E) domain that is heterologous with respect to said hinge (D) domain wherein said ligand binding (E) domain is an *Ostrinia nubilalis* EcR ligand binding (E) domain; and
  - 4) an activation domain.
5. (Original) A receptor cassette according to claim 4, wherein said DNA binding (C) domain is a GAL4 DNA binding domain.
6. (Original) A receptor cassette according to claim 5, wherein the C, D, and E domains of said chimeric receptor polypeptide comprise an amino acid sequence at least 90% identical to amino acids 1-508 of SEQ ID NO:121.
7. (Original) A receptor cassette according to claim 6, wherein the C, D, and E domains of said chimeric receptor polypeptide comprise amino acids 1-508 of SEQ ID NO:121.
8. (Cancelled)
9. (Previously presented) A receptor cassette according to claim 5, comprising nucleotides 1-1524 of SEQ ID NO:120.
10. (Original) A receptor cassette according to claim 5, wherein said DNA binding (C) domain is a GAL4 DNA binding domain, wherein said hinge (D) domain is a *Manduca sexta* EcR hinge (D) domain, wherein said ligand binding (E) domain is an *Ostrinia nubilalis* EcR ligand binding (E) domain, and wherein said activation domain is a VP16 activation domain.
11. (Original) A receptor cassette according to claim 10, wherein said chimeric receptor polypeptide comprises an amino acid sequence at least 90% identical to SEQ ID NO:121.
12. (Original) A receptor cassette according to claim 11, wherein said chimeric receptor polypeptide comprises SEQ ID NO:121.
13. (Cancelled)

14. (Previously presented) A receptor cassette according to claim 10, comprising SEQ ID NO:120.

15. (Original) A receptor cassette encoding a chimeric receptor polypeptide comprising:

- a) a DNA binding (C) domain;
- b) a hinge (D) domain;
- c) a ligand binding (E) domain of an ecdysone receptor (EcR) of an insect selected from the group consisting of *Manduca sexta*, *Agrotis ipsilon*, *Spodoptera frugiperda*, *Chironomus tentans*, and *Locusta migratoria*, wherein said ligand binding (E) domain is heterologous with respect to said hinge (D) domain; and
- d) an activation domain.

16. (Original) A receptor cassette according to claim 15, wherein:

- a) said DNA binding (C) domain is an *Ostrinia nubilalis* EcR DNA binding (C) domain, said hinge (D) domain is an *Ostrinia nubilalis* EcR hinge (D) domain, and said ligand binding (E) domain is an *Agrotis ipsilon* EcR ligand binding (E) domain;
- b) said DNA binding (C) domain is an *Ostrinia nubilalis* EcR DNA binding (C) domain, said hinge (D) domain is an *Ostrinia nubilalis* EcR hinge (D) domain, and said ligand binding (E) domain is a *Manduca sexta* EcR ligand binding (E) domain;
- c) said DNA binding (C) domain is a GAL4 DNA binding domain, said hinge (D) domain is an *Ostrinia nubilalis* EcR hinge (D) domain, and said ligand binding (E) domain is a *Manduca sexta* EcR ligand binding (E) domain;
- d) said DNA binding (C) domain is a *Drosophila melanogaster* EcR DNA binding (C) domain, said hinge (D) domain is a *Drosophila melanogaster* EcR hinge (D) domain, and said ligand binding (E) domain is a *Manduca sexta* EcR ligand binding (E) domain; or
- e) said DNA binding (C) domain is a *Drosophila melanogaster* EcR DNA binding (C) domain, said hinge (D) domain is a *Drosophila melanogaster* EcR hinge (D) domain, and said ligand binding (E) domain is an *Agrotis ipsilon* EcR ligand binding (E) domain.

17. (Original) A receptor cassette according to claim 16, wherein said activation domain is a VP16 activation domain.

18-21. (Cancelled)

22. (Currently amended) A receptor cassette encoding a chimeric receptor polypeptide comprising: according to claim 21, wherein said DNA binding (C) domain is a GAL4 DNA binding domain, wherein said hinge (D) domain is a *Manduca sexta* EcR hinge (D) domain, wherein said ligand binding (E) domain is a *Manduca sexta* EcR ligand binding (E) domain, and wherein said activation domain is a VP16 activation domain.

23. (Cancelled)

24. (Currently amended) A receptor cassette according to claim [[21]] 22, wherein said VP16 activation domain is located internally in said chimeric receptor polypeptide between said GAL4 DNA binding domain and said *Manduca sexta* EcR hinge (D) domain.

25. (Currently amended) A receptor cassette according to claim [[21]] 22, wherein said VP16 activation domain is located at the C-terminus of said chimeric receptor polypeptide.

26. (Original) A receptor cassette according to claim 25, wherein said chimeric receptor polypeptide comprises an amino acid sequence at least 90% identical to SEQ ID NO:105.

27. (Original) A receptor cassette according to claim 26, wherein said chimeric receptor polypeptide comprises SEQ ID NO:105.

28. (Cancelled)

29. (Previously presented) A receptor cassette according to claim 25, comprising nucleotides 2007-3668 of SEQ ID NO:104.

30-49. (Cancelled)

50. (Original) A receptor expression cassette comprising a heterologous promoter sequence operatively linked to a receptor cassette according to claim 15.

51. (Previously presented) A recombinant vector comprising a receptor expression cassette according to claim 50.

52-57. (Cancelled)

58. (Original) A receptor expression cassette comprising a heterologous promoter sequence operatively linked to a receptor cassette according to claim 16.

59. (Previously presented) A recombinant vector comprising a receptor expression cassette according to claim 58.

60-65. (Cancelled)

66. (Previously presented) A receptor expression cassette comprising a heterologous promoter sequence operatively linked to a receptor cassette according to claim 17.

67. (Previously presented) A recombinant vector comprising a receptor expression cassette according to claim 66.

68-97. (Cancelled)